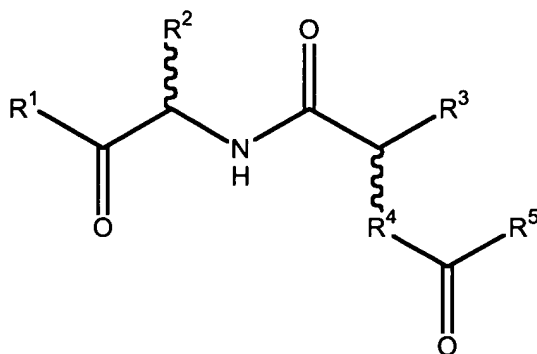


AMENDMENT TO THE CLAIMS

Claim 1 (currently amended): A chemical compound comprising an analog or a derivative of (S,S,R)-(-)-actinonin having the structure:



wherein R^1 is an optionally substituted or halogenated ~~[[.]]~~ indoline, indole, pyrrole, or imidazole;

R^2 is ~~methyl, CH_2CH_3 , $(\text{CH}_2)_2\text{CH}_3$, $\text{C}(\text{CH}_3)_3$, phenyl, 3,4-dichlorophenyl, biphenyl, benzyl, 4-hydroxybenzyl, piperidine, N-Boc-4-piperidine, CH_2 (N-Boc-4-piperidine), 4-tetrahydropyran, CH_2 -4-tetrahydropyran, 3-methyl indolyl, 2-naphthyl, 3-pyridyl, or 4-pyridyl, 3-thienyl;~~

R^3 is ~~R^2~~ or a straight chain or branched C_{3-8} alkyl ~~[[.]]~~ ;

R^4 is ~~methylene, ethylene or propylene~~ C_{1-3} -alkyl; and

R^5 is ~~NH_2 , OH , NHOH , NHOCH_3 , $\text{N}(\text{CH}_3)\text{OH}$, $\text{N}(\text{CH}_3)\text{OCH}_3$, NHCH_2CH_3 , or $\text{N}(\text{CH}_2\text{CH}_3)_2$, $\text{NH}(\text{CH}_2\text{CH}_3)$, $\text{NHCH}_2(2,4-(\text{OCH}_3)_2\text{Ph}$, $\text{NHCH}_2(4-\text{NO}_2)\text{Ph}$, $\text{NHN}(\text{CH}_3)_2$, proline, or 2-hydroxymethyl pyrrolidine.~~

Claims 2-3 (canceled).

Claim 4 (previously presented): A pharmaceutical composition comprising a therapeutically effective amount of the compound of claim 1 and a pharmaceutically acceptable carrier.

Claim 5 (currently amended): A method for asymmetrically synthesizing a chemical compound having the structure of claim 1, comprising the steps of:

a) forming an optionally O-protected R^1 -1-carbonyl-C2-(R^2)-methYLENEamine from R^1 and an N-protected R^2 -amino acid 2,5-dioxo-pyrrolidinyl ester and deprotecting said N-protected R^2 -amino acid with a suitable agent comprising trifluoroacetic acid;

b) forming an R^3 -carbonyl-oxazolidone from 4-isopropyl-oxazolidin-2-one and R^3 -carbonyl chloride;

c) treating a solution of 4-(S)-isopropyl-oxazolidin-2-one with a solution of a base comprising n-butyl lithium in hexanes and adding an R^3 -carbonyl chloride thereby forming an R^3 -carbonyl oxazolidinone;

d) treating a solution of the R^3 -carbonyl oxazolidinone sequentially with a base comprising lithium diisopropylamide and with a bromo- R^4 acid-*tert*-butyl ester thereby forming an oxazolidine- R^3 -carbonyl- R^4 -acid *tert*-butyl ester;

e) treating a mixture of the [[an]] oxazolidine- R^3 -carbonyl- R^4 -acid *tert*-butyl ester in tetrahydrofuran and water sequentially with hydrogen

peroxide in water and with lithium hydroxide in water thereby forming a C2(R³)-R⁴-dicarboxylic acid *tert*-butyl ester;

f) treating a mixture of the C2(R³)-R⁴-dicarboxylic acid 4-*tert*-butyl ester and hydroxysuccinimide in a solvent comprising dioxane or dimethylformamide with an imide comprising dicyclohexylcarbodiimide thereby forming an C2(R³)-R⁴-dicarboxylic acid *tert*-butyl ester-(2,5-dioxo-pyrrolidin-1-yl) ester.

g) treating a solution of said optionally O-protected R¹-1-carbonyl-2-(R²)-methyleneamine in a solvent comprising tetrahydrofuran sequentially with triethylamine and with the C2(R³)-R⁴-dicarboxylic acid *tert*-butyl ester-(2,5-dioxo-pyrrolidin-1-yl) ester thereby forming an optionally O-protected R¹-1-carbonyl-2-(R²)-carbamoyl-methylene(R³)-R⁴-carboxylic acid *tert*-butyl ester;

h) treating a solution of said optionally O-protected R¹-1-carbonyl-C2(R²)-carbamoyl-methylene(R³)-R⁴-carboxylic acid *tert*-butyl ester in a solvent comprising methylene chloride with trifluoroacetic acid thereby forming an optionally O-protected R¹-1-carbonyl-C2(R²)-carbamoyl-methylene(R³)-R⁴-carboxylic acid;

i) treating said optionally O-protected R¹-1-carbonyl-2-(R²)-carbamoyl-methylene(R³)-R⁴-carboxylic acid and hydroxysuccinamide *N*-hydroxysuccinimide with an imide comprising dicyclohexylcarbodiimide thereby forming a optionally O-protected R¹-1-carbonyl-C2(R²)-carbamoyl-methylene(R³)-R⁴-carboxylic acid 2,5-dioxo-pyrrolidin-1-yl ester;

j) treating a suspension of R^5 or the chloride thereof, said R^5 optionally O-protected, in a solvent comprising dimethylformamide sequentially with triethylamine and with a solution of said optionally O-protected R^1 -1-carbonyl- $C2(R^2)$ -carbamoyl-methylene(R^3)- R^4 -carboxylic acid 2,5-dioxo-pyrrolidin-1-yl ester in a solvent comprising dimethylformamide thereby forming an R^1 -1-carbonyl- $C2(R^2)$ -carbamoyl-methylene(R^3)- R^4 -carbonyl- R^5 , said R^1 and R^5 independently optionally O-protected; and

k) hydrogenating said R^1 and R^5 , said R^1 and R^5 independently comprising an O-protecting group, with hydrogen gas and a catalyst comprising palladium hydroxide in activated carbon wherein said chemical compound of claim 1 is thereby formed.

Claims 6-9 (canceled).

Claim 10 (currently amended): A method ~~for~~ of inhibiting the treatment growth of a tumor in an individual neoplastic disease comprising: the step of

administering to ~~an~~ the individual ~~in need of such treatment~~ a pharmacologically effective dose of the chemical compound of claim 1; wherein said tumor is an ovarian cancer, a prostate cancer, a mammary cancer, a head and neck cancer, a non-small-cell lung-cancer, an adenocarcinoma, a squamous cell carcinoma, a lymphoma or a leukemia.

Claim 11 (canceled).

Claim 12 (original): The method of claim 10, wherein said individual is a human or an animal.

Claims 13-21 (canceled).